

Remarks

Favorable reconsideration of this application is requested in view of the following remarks. For the reasons set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The final Office Action dated July 1, 2003, indicated that claims 1-19 are rejected under 35 U.S.C. § 103(a) over *Eriguchi* (U.S. Patent No. 6,395,563).

The Rejection Fails On The Merits

Applicant respectfully traverses the Section 103(a) rejection because the Office Action fails to present a proper *prima facie* Section 103(a) rejection. To present a *prima facie* Section 103 rejection, MPEP 706.02(j) requires evidence of: prior-art correspondence to the claimed invention ("as a whole" with all its limitations); a likelihood of success; and evidence that would support the asserted modification. While failure to comply with any one of these requirements is adequate grounds for removal of the rejection, Applicant submits that none of these requirements has been satisfied.

The Office Action Acknowledges That The Cited Art Does Not Correspond

The Office Action acknowledges both that the '563 reference does not teach die analysis and that the claimed invention is directed specifically to die analysis (p.1 of the Office Action). Moreover, by stating that it is "obvious that a wafer [of the '563 patent] has a plurality of die" (p.4 of the Office Action), the Examiner acknowledges that which the '563 reference is expressly limited to: measuring a thickness of a film layer on a wafer during manufacture of the wafer. This wafer-manufacture period is before any single integrated circuit (dice) is completed and therefore before any evaluation, testing or other manipulation of a dice can occur, as evidenced by every aspect of the '563 reference including its title, abstract, background, claims, summary and detailed description. Accordingly, contrary to the rationale asserted in an attempt to support the rejection, the '563 reference does not teach or suggest any aspect of the claimed die analysis.

Interestingly, as indicated in the last paragraph of page 1, the Examiner's only evidence in support of the Section 103 rejection of claim 1 is the admission that the '563 reference discloses "analyzing the semiconductor wafer 22 (fig. 2)" and not "analyzing the

die." The Examiner concludes this paragraph with the wholly unsupported statement: "It would have been obvious that Eriguchi's ['563] system could be modified [since it] involves only routine skill in the art." Such an unsupported rejection cannot stand and fails to comply with a long list of statutes, authoritative case law, federal regulations and the MPEP.

The Office Action's Assertion Of Routine Skill Has Zero Likelihood

Applicant submits that the Examiner's "routine" modification assertion is clearly erroneous. The Office Action did not even explain what the modification would be or how it would be implemented. Also, as discussed above, there is no dispute either that the wafer of the '563 patent has a plurality of die (p.4 of the Office Action), or that the '563 reference is expressly limited to wafer processing which is during manufacture of the wafer. Because this wafer-manufacture period is before any single integrated circuit (dice) is manufactured, the likelihood of modifying the optical film-thickness technique taught by the '563 reference in order to evaluate a nonexistent integrated circuit is zero.

Moreover, the assertion itself is based on at least two false assumptions. First, it is erroneous to assume that the optical film-thickness technique taught by the '563 reference could be used to analyze an integrated circuit. The '563 optical thickness technique is useful for measuring an exposed extremely thin film at the surface of the wafer "in-line" and during the manufacturing process. Column 2, lines 27-62. Once the manufacturing process is complete, the die ("integrated circuits") are surrounded by bulk silicon and circuit layers so that the circuitry of the semiconductor sections can cooperate and form respective integrated circuits. To assume that the '563 optical film-thickness technique could be used to analyze an integrated circuit suggests that the optical modulation system of figure 2 of the '563 reference would both penetrate and reflect the light via the bulk silicon and circuit layers – which is directly contrary to the teaching of the '563 reference (see columns 9-10).

Second, wafer processing is in a different art unit than post-manufacture die analysis. This well-known fact is evidenced by the departments of major electronic companies (e.g., those having wafer-fabrication plants as well as IC sales), international conferences, publications and test-equipment manufacturers. As each of these entities treats "the wafer processing art" as entirely different than engineers practicing in the field of "post-manufacture die analysis," official notice should be taken that these engineering fields are

distinct. The artisan skilled in manipulating wafer-chamber parameters as discussed in the '563 reference (see Detailed Description at columns 7 *et seq.*) does not typically have any background for performing post-manufacture circuit analysis.

Accordingly, there is no evidenced likelihood for the asserted modification. The Office Action did not explain what the modification would be or how it would be implemented. The '563 reference is expressly limited to wafer processing which is before any die could be evaluated. The assertion behind the modification falsely assumes both that the '563 technique could be used to analyze a die, and that the fields of skill are one and the same. Applicant submits that the assertion is unfounded.

There Is No Evidence That Would Support The Asserted Modification

The Office Action fails to present evidence of motivation to modify the '563 reference because the proposed modification of the '563 reference would frustrate the purpose of the '563 reference. As discussed above, the '563 reference is directed to measuring the thickness of a film on a wafer in the development process. *See*, column 2, lines 7-31. Modifying the '563 teachings to analyze the die (instead of measuring film thickness) would require completing the wafer manufacture and then separating the wafer into the various dies (IC's), in which case the film would no longer be accessible for measurement. Thus, the purpose of measuring film thickness would be destroyed by removing access to the film in completing the wafer manufacture. To suggest that one skilled in the art would modify the '563 reference in this manner is untenable and improper. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (A §103 rejection cannot be maintained when the asserted modification undermines the purpose or operation of the main reference.). One skilled in the art would not be motivated to modify the '563 reference in such a manner that frustrates the objective of the '563 teachings.

Without a showing of prior-art correspondence to the claimed invention as well as evidence that would support the asserted modification, the Section 103(a) rejection is improper and Applicant accordingly requests that the rejection be withdrawn.

The Rejection Fails To Comply With Requisite Procedure

Consistent with the spirit and scope of 35 U.S.C. § 132 and M.P.E.P. § 707.07(f), Applicant further traverses the Section 103(a) rejection because the Office Action fails to respond to Applicant's arguments that were presented in the Office Action Response and Amendment filed on April 21, 2003. The final Office Action merely repeats the rejection presented in the non-final Office Action and does not address each of Applicant's previous arguments. M.P.E.P. § 707.07(f), among other edicts, dictates that the Office Action should take note of the applicant's arguments and answer the substance of them. This is consistent with the purpose of aiding the applicant in judging the propriety of continuing the prosecution, as indicated in 37 C.F.R. § 1.104(a)(2) and 35 U.S.C. § 132. For example, the Office Action fails to respond to Applicant's multiple arguments regarding the lack of evidence of motivation to modify the '563 reference as well as arguments regarding the lack of correspondence between the '563 detector and the claimed invention. M.P.E.P. § 707.07(f) further urges that the Examiner state the reasons for his or her position (regarding Applicant's arguments) in the record. Because the Office Action fails to comply with these requirements, Applicant requests that the rejection and its finality be withdrawn.

The Office Action fails to respond to each of Applicant's arguments and include rationale for maintaining the rejection. Instead, the Office Action responds by addressing only one of the issues previously presented and further addressing an argument not even raised by Applicant. The Examiner erroneously asserts that Applicant's argument at page 5 was directed to the '563 reference's failure to teach evaluating a die and responds by asserting that the '563 reference "inherently discloses evaluating a die." However, Applicant's previous arguments were directed to the lack of correspondence between the '563 reference and the claimed invention, the lack of evidence of motivation to modify the '563 reference, the failure of the '563 reference to address the problem that the proposed modification would correct, and the proposed modification's frustration of the purpose of the '563 reference. This failure of the Office Action to provide rationale for maintaining the rejection, not only denies Applicant the opportunity to evaluate the application and respond to the rejection, but also denies the Board of Patent Appeals and Interferences the ability to see whether Applicant's arguments were considered and/or

rebutted by the Examiner. Without such rationale present in the record, Applicant submits that the finality of the rejection is premature and improper.

Moreover, the assertion that the '563 reference inherently discloses evaluating a die is unsupported and incorrect. In order to establish an inherency argument, the extrinsic evidence "must make clear that the missing descriptive matter *is necessarily present in the thing described in the reference*, and that it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991) (emphasis added). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *Id.* at 1269, 20 U.S.P.Q.2d at 1749 (quoting *In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981). The Examiner fails to provide any of the requisite evidence in support of his inherency assertion. Further, this assertion of inherency fails as the evidence shows that the '563 technique cannot be used to measure thickness of a film in anything but an exposed wafer during production. Accordingly the inherency argument is unsupported and incorrect.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is encouraged to contact the undersigned at (651) 686-6633.

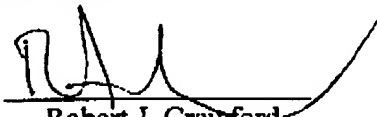
Respectfully submitted,

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